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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTO@wavsip.com

Office Action Summary

Application No.

10/749,727

Applicant(s)

PATHAN ET AL.

Examiner

INDER P. MEHRA

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 December 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is in response to RCE and submissionn dated: 1/22/2009. Based on this application, claims 1-36 are pending. Claims 1, 6, 8-14, 20-24, 26-27 and 31-34 are amended to include new limitations.
2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on has been entered

Claim Objections

3. Claim 34 is objected to because of the following informalities:

Status of claim 34 should be (Currently Amended) instead of (Previously Presented), because claim has been amended.

Appropriate correction is required.

35 U.S.C. 101 reads as follows:

4. Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 32 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 1 recites limitations: A Computer readable medium storing thereon computer-readable instructions for triggering roaming in a network device. According to

specification, page 19, lines20-22, this invention may also be embodied in a carrier wave (non-statutory signal) traveling over an appropriate medium such as airwaves (non-statutory signal), --, etc. , refer to specifications, page 19, lines20-22. This feature constitutes non-statutory signal in invention.

Appropriate correction/clarification is required.

Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-2, 4-5, 9-14, 20-21 and 31-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dorenbosch et al (US Pub. No. 2005/0048977), hereinafter, '977 in view of Jeyaseelan et al (US Pub. No. 2005/0070275), hereinafter, Jeyaseelan.

For claims 1 and 32- 34, '977 teaches, a method of triggering roaming in a network device ('977 teaches a method of triggering handover (roaming) from WLAN to WAN in a network refer to abstract and para: [0002] in reference to figs. 1-2; comprising:

detecting a speed of the network device ('977 teaches detection of speed, refer to paras: [abstract, 0009 and 0020]; and ;

instructions (see claim 32); (refer to '977 paragraph [0027]);

means for detecting speed , (see claim 33),('977 teaches accelerometer, refer to para [0010]);

means for ascertaining one or more threshold values, (see claim 33) ('977 teaches unit 306, para: [0009]);

means for roaming (see claim 33), ('977 teaches unit 306 for roaming triggering, para: [0042]);

ascertaining one or more threshold values corresponding to one or more trigger events and the detected speed of the network device ('977 teaches detecting a triggering event, which may be the detection of a wireless local area network border cell (210), fig. 2, or a degradation in

signal quality (same as ascertaining threshold value), refer to para: [0009] and abstract); wherein one or more threshold values have been configured at the network device ('977 teaches, if the speed and/or displacement of the device exceeds a predetermined threshold (predetermined threshold value is same as configured at the network device), refer to para: [0009]);

a processor and a memory (see claim 34); ('977 teaches processor and memory, refer para: [0027]);

triggering roaming when one of the trigger values associated with one of the trigger events is equal to or exceeds one of the threshold values that corresponds to the one of the trigger events and the detected speed of the network device ('977 teaches degradation of quality level or detection of a wireless local area network border cell (210) , fig. 2, (same as trigger values) when triggering event happens. Determines the speed and/or displacement of the device (306), and conducts any present and subsequent calls via the second wireless communication system if the speed and/or displacement of the device exceeds a predetermined threshold , refer to [abstract]).

'977 does not teach the following limitation, which is disclosed by Jeyaseelan, as follows:

ascertaining one or more trigger values associated with the one or more trigger events (Jeyaseelan teaches timer 104 (counter performs as roaming timer associated with events, paragraph 0020) at the expiry of which roaming starts (trigger value); and

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of ascertaining one or more trigger values associated with one of

the trigger events as taught by Jeyaseelan. This could be implemented by wireless communication device of '977. '977 suggested the methods to determine as to when the mobile wireless communication device should handover, refer to abstract. The motivation for using this capability was to improve handover and registration behavior between WLANs and WANs and battery life of a mobile device when a user was stationary in border cells.

For claim 20, '977 teaches, a method of triggering roaming in a network device ('977 teaches a method of triggering handover (roaming) from WLAN to WAN in a network refer to abstract and para: [0002] in reference to figs. 1-2; comprising:

detecting a speed of the network device ('977 teaches detection of speed, refer to paras: [abstract, 0009 and 0020]; and ;

ascertaining one or more threshold values corresponding to one or more trigger events and the detected speed of the network device ('977 teaches detecting a triggering event, which may be the detection of a wireless local area network border cell (210), fig. 2, or a degradation in signal quality (same as ascertaining threshold value), refer to para: [0009] and abstract);

wherein one or more threshold values have been configured at the network device ('977 teaches, if the speed and/or displacement of the device exceeds a predetermined threshold (predetermined threshold value is same as configured at the network device), refer to para: [0009]);

'977 does not teach the following limitation, which is disclosed by Jeyaseelan, as follows:

ascertaining one or more trigger values associated with the one or more trigger events (Jeyaseelan teaches timer 104 (counter performs as roaming timer associated with events, (same as trigger values, refer to specifications, page 6 lines 19-20), paragraph [0020]) at the expiry of which roaming starts (trigger value);

triggering roaming when one of the trigger counters associated with one of the trigger events is less than or equal to one of the trigger values corresponding to the one of the trigger events at the speed of the network device (Jeyaseelan teaches triggering roaming, fig. 3, when triggering event occur, such as whenever RSSI is less than threshold and counter value set at particular value, such as, (10 seconds , 2 minutes, 4 minutes or 15 minutes), paragraph 0026-0027) is reached.

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of ascertaining one or more trigger values associated with one of the trigger events; and, further, triggering roaming when one of the trigger counters associated with one of the trigger events is less than or equal to one of the trigger values corresponding to the one of the trigger events at the speed of the network device, as taught by Jeyaseelan. This could be implemented by wireless communication device of '977. '977 suggested the methods to determine as to when the mobile wireless communication device should handover, refer to abstract . The motivation for using this capability was to improve handover and registration behavior between WLANs and WANs and battery life of a mobile device when a user was stationary in border cells.

For claim 21, '977 teaches, a method of triggering roaming in a network device ('977 teaches a method of triggering handover (roaming) from WLAN to WAN in a network refer to abstract and para: [0002] in reference to figs. 1-2; comprising:

detecting a speed of the network device ('977 teaches detection of speed, refer to paras: [abstract, 0009 and 0020]); and ;

--- one or more threshold values correspond to the speed of the detected speed of the network device ('977 teaches one or more threshold values corresponding to speed of device, refer to abstract, where '977 teaches, determining the speed and/or displacement of the device (306), and conducts any present and subsequent calls via the second wireless communication system if the speed and/or displacement of the device exceeds a predetermined threshold).

triggering roaming when one of the trigger values associated with one of the trigger events is equal to or exceeds one of the threshold values that correspond to the one of the trigger events and the detected speed of the network device ('977 teaches degradation of quality level or detection of a wireless local area network border cell (210) , fig. 2, (same as trigger values) then handover triggering event happens. Determines the speed and/or displacement of the device (306), and conducts any present and subsequent calls via the second wireless communication system if the speed and/or displacement of the device exceeds a predetermined threshold , refer to [abstract]).

'977 does not teach the following limitation, which is disclosed by Jeyaseelan, as follows:

Modifying one or more threshold values corresponding to one or more trigger events---; (Jeyaseelan teaches modifying counter (timer) values) to mark new threshold, refer to para:

[0019] and step 240, fig. 2), and steps 330, 340, 350, 360); Jeyaseelan teaches roaming timer may be set on any value based on criteria, or set to new value modifying values), paragraphs [0013] or [0019]).

ascertaining one or more trigger values associated with the one or more trigger events (Jeyaseelan teaches timer 104 (counter performs as roaming timer associated with events, paragraph 0020) at the expiry of which roaming starts (trigger value); and '977 teaches modifying counter (timer) values) to mark new threshold, as new trigger values to trigger event, such as handover, refer to para: [0019] and step 240, fig. 2), and steps 330, 340, 350, 360);

It would have been obvious to the person of ordinary skill in the art at the time of the invention was made to have modified the capability of '977 by ascertaining one or more trigger values associated with one of the trigger events; and modifying one or more threshold values--, as taught by Jeyaseelan. This could be implemented by wireless communication device of '977. '977 suggested the methods to determine events as to when the mobile wireless communication device should handover, refer to abstract . The motivation for using this capability was to improve handover and registration behavior between WLANs and WANs and battery life of a mobile device when a user was stationary in border cells, refer to [abstract]of '977.

For claim 31, '977 teaches, a method of triggering roaming in a network device ('977 teaches a method of triggering handover (roaming) from WLAN to WAN in a network refer to abstract and para: [0002] in reference to figs. 1-2; comprising:

detecting a speed of the network device ('977 teaches detection of speed, refer to paras: [abstract, 0009 and 0020]); and ;

--- one or more threshold values correspond to the speed of the detected speed of the network device ('977 teaches one or more threshold values corresponding to speed of device, refer to abstract, where '977 teaches, determining the speed and/or displacement of the device (306), and conducts any present and subsequent calls via the second wireless communication system if the speed and/or displacement of the device exceeds a predetermined threshold).

'977 does not teach the following limitation, which is disclosed by Jeyaseelan, as follows:

Modifying one or more threshold values corresponding to one or more trigger events---; (Jeyaseelan teaches modifying counter (timer) values) to mark new threshold, refer to para: [0019] and step 240, fig. 2), and steps 330, 340, 350, 360); Jeyaseelan teaches roaming timer may be set on any value based on criteria, or set to new value modifying values), paragraphs [0013] or [0019]).

ascertaining one or more trigger values associated with the one or more trigger events (Jeyaseelan teaches timer 104 (counter performs as roaming timer associated with events, paragraph 0020) at the expiry of which roaming starts (trigger value); and '977 teaches modifying counter (timer) values) to mark new threshold, as new trigger values to trigger event, such as handover, refer to para: [0019] and step 240, fig. 2), and steps 330, 340, 350, 360);

triggering roaming when one of the trigger values associated with one of the trigger events is less than or equal to one of the threshold values that correspond to the one of the trigger events and --- (Jeyaseelan teaches triggering roaming, fig. 3, when triggering event occur, such as whenever RSSI is less than threshold and counter value set at particular value, such as, (10 seconds , 2 minutes, 4 minutes or 15 minutes), paragraph 0026-0027) is reached.

(Note: detected speed is taught by '977, refer to paras: [abstract, 0009 and 0020]), as above.)

It would have been obvious to the person of ordinary skill in the art at the time of the invention was made to have modified the capability of '977 by ascertaining one or more trigger values associated with one of the trigger events; and modifying one or more threshold values--
Modifying one or more threshold values corresponding to one or more trigger events; and triggering roaming when one of the trigger values associated with one of the trigger events is less than or equal to one of the threshold values that correspond to the one of the trigger events, as taught by Jeyaseelan. This could be implemented by wireless communication device of '977. '977 suggested the methods to determine events as to when the mobile wireless communication device should handover, refer to abstract . The motivation for using this capability was to improve handover and registration behavior between WLANs and WANs and battery life of a mobile device when a user was stationary in border cells, refer to [abstract]of '977.

For claim 2, '977 in view of Jeyaseelan teaches all the limitations of subject matter , as applied to claim 1, as above. In addition, '977 teaches the following limitations:
wherein the network device is a Mobile Node implemented in a 802.11 environment, ('977 teaches 802.11 environment for mobile device in WLAN network, refer to para: [0011]).

For claim 4, '977 in view of Jeyaseelan teaches all the limitations of subject matter , as applied to claim 1, as above. In addition, '977teaches the following limitations:

wherein roaming is triggered when the network device has reached or is nearing a perimeter of a coverage area of an Access Point to which the network device has associated or a Foreign Agent via which the network device has registered with its Home Agent ('977 teaches roaming is triggered when mobile device is in border cell, refer to [abstract]).

For claim 5, '977 in view of Jeyaseelan teaches all the limitations of subject matter , as applied to claim 1, as above. In addition, '977 teaches the following limitations:

wherein roaming is triggered when the network device is no longer within a coverage area of an Access Point to which the network device has associated or a Foreign Agent via which the network device has registered with its Home Agent ('977 teaches, Normally, before a user is leaving the WLAN coverage area 104, the user's SU first detects a border cell 210. The SU 106 starts the cellular stack and begins to register with the cellular network 102 upon detecting the border cell 210 information so that the call is handed over in an adequate timeframe. By the time the SU 106 is out of range of the WLAN coverage area 104, the call should be transferred to the WAN 102, refer to [0007]).

For claim 9, '977 in view of Jeyaseelan teaches all the limitations of subject matter , as applied to claim 1. In addition, Jeyaseelan teaches the following limitations:

wherein the trigger events include at least one of maximum data retry count is exceeded, maximum number of beacons missed is exceeded, data rate shift, and signal strength (Jeyaseelan teaches trigger event (roaming) includes data rate shift and bit error rate, steps 315 and 325 , fig. 3).

It would have been obvious to the person of ordinary skill in the art at the time of the invention was made to have modified the capability of '977 in view of Jeyaseelan with the capability of wherein the trigger events include at least one of maximum data retry count is exceeded, maximum number of beacons missed is exceeded, data rate shift, and signal strength (Jeyaseelan teaches trigger event (roaming) includes data rate shift and bit error rate, as taught by Jeyaseelan. This could be implemented by wireless communication device of '977. '977 suggested the methods to determine events as to when the mobile wireless communication device should handover, refer to abstract . The motivation for using this capability was to improve quality of communication based on roaming, refer to abstract.

For claim 10, '977 in view of Jeyaseelan teaches all the limitations of subject matter , as applied to claims 1 and 9, In addition, Jeyaseelan teaches the following limitations:

wherein the trigger values include at least one of maximum data retry count, maximum number of beacons missed, maximum data rate shift, and minimum signal strength, (Jeyaseelan teaches trigger event (roaming) based on values (measured parameters, which are maximum) includes data rate shift, bit error rate, and RSSI (signal strength), steps 315 and 325 , fig. 3).

It would have been obvious to the person of ordinary skill in the art at the time of the invention was made to have modified the capability of '977 in view of Jeyaseelan with the capability of wherein the trigger events include at least one of maximum data retry count is exceeded, maximum number of beacons missed is exceeded, data rate shift, and signal strength (Jeyaseelan teaches trigger event (roaming) includes data rate shift and bit error rate, as taught by Jeyaseelan. This could be implemented by wireless communication device of '977. '977

suggested the methods to determine events as to when the mobile wireless communication device should handover, refer to abstract . The motivation for using this capability was to improve quality of communication based on roaming, refer to abstract.

For claim 11, '977 in view of Jeyaseelan teaches all the limitations of subject matter , as applied to claims 1, 9-10, In addition, Jeyaseelan teaches the following limitations:

wherein roaming is triggered when one of the trigger counters associated with the maximum data retry count is exceeded trigger event is equal to or exceeds the maximum data retry count trigger value, (steps 315, fig. 3).

Jeyaseelan teaches roaming when retries are high (exceeded) and roaming timer (counter) is exceeded, paragraphs 0025-0027).

It would have been obvious to the person of ordinary skill in the art at the time of the invention was made to have modified the capability of counter associated with the maximum data ---is exceeded, as taught by Jeyaseelan. This could be implemented by wireless communication device of '977. The motivation for using this capability was to allow the people on the move during changing conditions, refer to para: [0005].

For claim 12, '977 in view of Jeyaseelan teaches all the limitations of subject matter , as applied to claim 1,

'977 does not teach the following limitation, which is taught by Jeyaseelan, as follows:

wherein roaming is triggered when one of the trigger counters associated with the maximum number of beacons missed is exceeded trigger event is equal to or exceeds the

maximum number of beacons missed trigger value (Jeyaseelan teaches roaming when beacons are missed and roaming timer set count is exceeded, steps 305, 310, paragraphs 0024-0025).

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of wherein roaming is triggered when one of the trigger counters associated with the maximum number of beacons missed is exceeded trigger event is equal to or exceeds the maximum number of beacons missed trigger value, as taught by Jeyaseelan. This could be implemented by wireless communication device. Palmer suggested the methods to determine as to when the mobile wireless communication device should roam, refer to abstract col. 1 lines 12-16. The motivation for using this capability was to allow the people on the move during changing conditions, col. 1 lines 19-20 and col. 2 lines 30-35 of Palmer.

For claim 13, '977 in view of Jeyaseelan teaches all the limitations of subject matter, as applied to claim 1. In addition, Jeyaseelan teaches the following limitations:

wherein roaming is triggered when one of the trigger values associated with the data rate shift trigger event is equal to or exceeds the maximum data rate shift threshold value. (refer to step 325, fig. 3, and para: [0028]).

It would have been obvious to the person of ordinary skill in the art at the time of the invention was made to have modified the capability of '977 in view of Jeyaseelan with the capability of wherein roaming is triggered when one of the trigger values associated with the data rate shift trigger event is equal to or exceeds the maximum data rate shift threshold value, as taught by Jeyaseelan. This could be implemented by wireless communication device of '977. '977 suggested the methods to determine events as to when the mobile wireless communication

device should handover, refer to abstract . The motivation for using this capability was to improve quality of communication based on roaming based on rate shift, refer to abstract.

For claim 14, '977 in view of Jeyaseelan teaches all the limitations of subject matter , as applied to claim 1. In addition, Jeyaseelan teaches the following limitations:

wherein roaming is triggered when one of the trigger values associated with the data rate shift trigger event is equal to or exceeds the maximum data rate shift threshold value. (refer to step 325 , fig. 3, and para: [0028])).

It would have been obvious to the person of ordinary skill in the art at the time of the invention was made to have modified the capability of '977 in view of Jeyaseelan with the capability of wherein roaming is triggered when one of the trigger values associated with the signal strength trigger event is less than the minimum signal strength trigger value, as taught by Jeyaseelan. This could be implemented by wireless communication device of '977. '977 suggested the methods to determine events as to when the mobile wireless communication device should handover, refer to abstract . The motivation for using this capability was to improve quality of communication based on roaming based on signal strength, refer to abstract.

For claim 15, '977 in view of Jeyaseelan teaches all the limitations of subject matter , as applied to claim 1, as above, In addition, '977 teaches the following limitations.

wherein detecting a speed of the network device is performed using a GPS ('977 teaches determining of speed using GPS chipset, para: [abstract])

For claim 19, '977 in view of Jeyaseelan teaches all the limitations of subject matter , as applied to claim 1, as above.

In addition, '977 teaches following limitations:

wherein when roaming is triggered, the network device is no longer within a coverage area of an Access Point servicing the network device, ('977 teaches , termination of running upon roaming outside coverage area of access point, the mobile terminal can no longer communicate that area through that particular access point, refer to paras: [0024-0026]).

For claim 35, '977 in view of Jeyaseelan teaches all the limitations of subject matter , as applied to claim 1, as above.

In addition, '977 teaches following limitations:

identifying one of the plurality of sets of threshold values that corresponds to a set of one or more speeds that includes the detected speed of the network device ('977 teaches handover event at a speed at predetermined level (first threshold or second threshold, refer to paras: [0037 and 0042]).

For claim 36, '977 in view of Jeyaseelan teaches all the limitations of subject matter , as applied to claim 1, as above.

In addition, '977 teaches following limitations:

wherein each of the threshold values corresponds to a different one of the trigger events.

('977 teaches, if either the speed and/or displacement of the device 306 do not exceed a first predetermined threshold or the strength of the WAN signal is unacceptable, at step 806, then

the registration sequence is aborted (the unit stops running the WAN stack 510 and hardware 410, 412) at step 810 and the process is exited, resulting in a current and/or future calls continuing to be placed via the WLAN system, refer to para:[0038]).

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over '977 in view of Jeyaseelan and, further, in view of Palmer et al (US Patent No. 6,791,959), hereinafter, Palmer

For claim 6, '977 in view of Jeyaseelan teach all the limitations of subject matter, as applied to claim 1, as above, with the exception of following limitations, which are disclosed by Palmer, as follows::

wherein ascertaining comprises: obtaining the one or more trigger values from a profile, wherein the profile includes a set of one or more trigger values at a plurality of speeds (Palmer teaches, one or more trigger values (relative position is relative to access point, RPi_j) at plurality of speeds, roaming is triggered at certain values, col. 7 lines 40-55).

It would have been obvious to the person of ordinary skill in the art at the time of the invention was made to have modified the capability of '977 in view of Jeyaseelan with the capability of ascertaining comprises: obtaining the one or more trigger values from a profile, wherein the profile includes a set of one or more trigger values at a plurality of speeds (Palmer teaches, one or more trigger values (relative position is relative to access point, RPi_j) at plurality of speeds, roaming is triggered at certain values, as taught by Palmer. This could be implemented by wireless communication device of '977. '977 suggested the methods to determine events as to when the mobile wireless communication device should handover, refer to abstract . The motivation for using this capability was to improve quality of communication based on roaming, refer to abstract.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over '977 in view of Jeyaseelan and, further, in view of Naghian (US Pub. No. 2004/0077350), hereinafter, Naghian.

For claim 3, '977 in view of Jeyaseelan teaches all the limitations of subject matter, as applied to claim 1, as above, with the exception of the following limitations which are disclosed by Naghian:

wherein the network device is a Mobile Node supporting Mobile IP, (Naghian teaches, Mobile IP describes the basic operations needed for a mobile node to maintain its connectivity, refer to paragraph 0002).

It would have been obvious to the person of ordinary skill in the art at the time of the invention was made to have modified '977 in view of Jeyaseelan with the capability of the network device to have a Mobile Node supporting Mobile IP, as taught by Naghian. The capability could be implemented in mobile device. The suggestion to use this capability in changing environment of different standards, refer to Palmer's col. 3 lines 2-4. The motivation for using this capability was to allow the people on the move during changing conditions during handover, col. 1 lines 19-20 and col. 2 lines 30-35 of Palmer.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over '977 in view of Jeyaseelan and, further, in view of Yamashita (US Pub. No. 2003/0064729), hereinafter, Yamashita.

For claim 8, '977 in view of Jeyaseelan teaches all the limitations of subject matter , as applied to claims 1 and 6 sequentially, as above, with the exception of the following limitations which are disclosed by Yamashita.

wherein the trigger values decrease as the speed of the network device increases, (Yamashita teaches degradation of signal to noise ratio (trigger value for roaming) according to speed increase of mobile terminal (network device), refer to paragraph 0019).

It would have been obvious to the person of ordinary skill in the art at the time of the invention was made to have modified the capability of wherein the trigger values decrease as the speed of the network device increases as taught by Yamashita. The capability could be implemented in mobile device. The suggestion to use this capability in changing environment of different standards, refer to '977 's para: 0012. The motivation for using this capability was to allow the people on the move during changing conditions, para: 0012.

10. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over '977 in view of Jeyaseelan and, further, in view of Tsai et al (US Pub. No. 2003/0064727), hereinafter, Tsai. .

For claim 7, '977 in view of Jeyaseelan teaches all the limitations of subject matter , as applied to claim 1, as above, with the exception of the following limitations which are disclosed by Tsai.

wherein the rate at which the network device roams increases as the speed of the network device increases, (Tsai teaches increase in handover rate with the increase in speed of mobile station, refer to paragraph 0008).

It would have been obvious to the person of ordinary skill in the art at the time of the invention was made to have modified '977 in view of Jeyaseelan's system with the capability of wherein the rate at which the network device roams increases as the speed of the network device increases, as taught by Tsai. The capability to request handover could be implemented in mobile device. The suggestion to use this capability in changing environment of different standards, refer to '977' paragraph [0004]. Motivation for roaming is to have seamless integration between systems, refer to '977's para: [0004].

11. Claims 16-18 and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over '977 in view of Jeyaseelan, as above, and, further, in view of Narayanan et al (US Pub. No. 2004/0229612), hereinafter, '612.

For claims 16 and 28, '977 in view of Jeyaseelan teaches all the limitations of subject matter, as applied to claim 1, as above, with the exception of the following limitations which are disclosed by '612.

registering with a Home Agent via a new Foreign Agent using a new Access Point when roaming is triggered, wherein the Mobile Node is within a coverage area of the new Foreign Agent and the new Access Point ('612 teaches mobile node registering with Home Agent via Foreign Agent while within coverage area of Foreign Agent, refer to paragraph 0016). Note: FA which is a router, communicates with HA via local B/S or Access Point.

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of registering with a Home Agent via a new Foreign Agent using a new Access Point when roaming is triggered, wherein the Mobile Node is within a coverage

area of the new Foreign Agent and the new Access Point, as taught by '612. The capability to request handover could be implemented in mobile device. The suggestion to use this capability in changing environment of different standards, refer to abstract of '977. The motivation for using this capability was to allow the people on the move and register with second wireless communication system (which could be Home agent via foreign agent during changing conditions, refer to [Abstract]) of '977).

For claims 17 and 29, '977 in view of Jeyaseelan teaches all the limitations of subject matter, as applied to claims 1 and 16 for claim 17; and claims 1 and 28 for claim 29 respectively, as above, with the exception of the following limitations which are disclosed by '612.

de-registering with the Home Agent via a new Foreign Agent using a new Access Point, wherein the Mobile Node is no longer within a coverage area of the previous Foreign Agent. ('612 teaches mobile node registering with Home Agent via second Foreign Agent while moving away from first foreign agent to second foreign agent (no longer within a coverage area of the previous FA), refer to paragraph 0021 and step 216 in fig. 2. '612, further, teaches, home agent refreshes the state when mobile node moves to second FA, in order to de-register from first foreign agent, paragraph 0006)..

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of de-registering with the Home Agent via a new Foreign Agent using a new Access Point, wherein the Mobile Node is no longer within a coverage area of the previous Foreign Agent, as taught by '612. The capability to request handover could be

implemented in mobile device. The motivation for using this capability was to allow the people on the move and register with second wireless communication system (which could be Home agent via foreign agent during changing conditions, refer to [Abstract]) of '977).

For claims 18 and 30, Palmer in view of Jeyaseelan teaches all the limitations of subject matter, as applied to claim 1, as above, with the exception of the following limitations which are disclosed by '612.

wherein the network device is a Mobile Node, and wherein when roaming is triggered, the Mobile Node is no longer within a coverage area of a Foreign Agent via which the mobile node has registered with its Home Agent, ('612 teaches on handoff to second foreign agent, mobile node moves away from first foreign agent, where mobile node is registered with Home agent, to second foreign agent and communication link with first foreign agent is no longer operational, refer to paragraphs 0016-0018)..

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of wherein the network device is a Mobile Node, and wherein when roaming is triggered, the Mobile Node is no longer within a coverage area of a Foreign Agent via which the mobile node has registered with its Home Agent, as taught by '612. The capability to request handover could be implemented in mobile device. The suggestion to use this capability in changing environment of different standards, refer to abstract of '977. The motivation for using this capability was to allow the people on the move and register with second wireless communication system (which could be Home agent via foreign agent during changing conditions, refer to [Abstract]) of '977).

12. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over '977 in view of Jeyaseelan and, further, in view of Seo et al (US Pat. No 7106783), hereinafter, Seo.

For claim 22, '977 in view of Jeyaseelan teaches all the limitations of subject matter, as applied to claim 21, as above, with the exception of the following limitations which are disclosed by Seo.

multiplying the one or more trigger values by one or more multiplying factors, wherein each of the multiplying factors corresponds to the speed of the network device.

(Seo teaches multiplying at high speed pilot symbols and control symbols by corresponding weight (factor) to make handoff (trigger value event), refer to col. 3 lines 18-21).

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of multiplying the one or more trigger values by one or more multiplying factors, wherein each of the multiplying factors corresponds to the speed of the network device., as taught by Seo. The capability to request handover could be implemented in mobile device. The suggestion to use this capability in changing environment of different standards, refer to abstract of '977. The motivation for using this capability was to allow the people on the move during changing conditions, refer to fig. 3 of Jeyaseelan.

13. Claims 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over '977 in view of Jeyaseelan and Seo and further, in view of Tiedemann, JR. et al (US 2006/0094460), hereinafter, '460.

For claims 23-24, '977 in view of Jeyaseelan and Seo teaches all the limitations of subject matter, as applied to claim 21, as above, with the exception of the following limitations which are disclosed by '460.

(As recited by claim 23), wherein each of the multiplying factors decreases the one or more trigger values when the speed of the network device increases.

(As recited by claim 24), wherein each of the multiplying factors increases the one or more trigger values when the speed of the network device decreases.

('460 teaches change (either increase or decrease) in value with the change (either decrease or increase) in velocity (speed) of mobile station), refer to paragraph 0057) .

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of wherein each of the multiplying factors decreases the one or more trigger values when the speed of the network device increases (see claim 23; and wherein each of the multiplying factors increases the one or more trigger values when the speed of the network device decreases (see claim 24), as taught by '460. The capabilities to request handover could be implemented in mobile device. The suggestion to use this capability in changing environment of different standards, refer to abstract of '977. The motivation for using this capability was to allow the people on the move during changing conditions, refer to fig. 3 of Jeyaseelan..

14. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over '977 in view of Jeyaseelan and Seo and further, in view of Murai (US 2005/0130662), hereinafter, Murai.

For claim 25, Palmer in view of Jeyaseelan and Seo teaches all the limitations of subject matter , as applied to claim 21, as above, with the exception of the following limitations which are disclosed by Murai.

ascertaining the multiplying factors corresponding to the speed of the network device. (Murai teaches determining (ascertaining) factors corresponding to the mobile station speed), refer to paragraph 0036) .

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of ascertaining the multiplying factors corresponding to the speed of the network device, as taught by Murai. The capabilities to request handover could be implemented in mobile device. The suggestion to use this capability in changing environment of different standards, refer to abstract of '977. The motivation for using this capability was to allow the people on the move during changing conditions, refer to fig. 3 of Jeyaseelan.

15. Claims 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over '977 in view of Jeyaseelan and Seo and, further, in view of Kalhan et al (US Pub. No2004/0116133), hereinafter, Kalhan.

For claim 26, '977 in view of Jeyaseelan and Seo teaches all the limitations of subject matter , as applied to claims 21 and 22, as above, with the exception of the following limitations which are disclosed by Kalhan.

wherein multiplying comprises: multiplying the one or more trigger values by a single multiplying factor, (Kalhan teaches , multiplying power level sample 304, fig. 6 (indicator or trigger value, as to when to exit coverage area, refer to abstract and paragraph 0064) by adjustment factor and to send exit control signal, refer to paragraph 0066) .

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of wherein multiplying comprises: multiplying the one or more trigger values by a single multiplying factor, as taught by Kalhan. The capability to request handover could be implemented in mobile device. The suggestion to use this capability in changing environment of different standards, refer to abstract of '977. The motivation for using this capability was to allow the people on the move during changing conditions, refer to fig. 3 of Jeyaseelan.

For claim 27, '977 in view of Jeyaseelan and Seo teaches all the limitations of subject matter, as applied to claims 21 and 22, as above, with the exception of the following limitations which are disclosed by Kalhan.

wherein multiplying comprises: multiplying each of the trigger values by a different multiplying factor, wherein the multiplying factor corresponds to the trigger event, (Kalhan teaches, multiplying power level sample 304, fig. 6 (indicator or trigger value, as to when to exit coverage area, refer to abstract and paragraph 0064) by adjustment factor and to send exit control signal (Trigger event), refer to paragraph 0066).

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of wherein multiplying comprises: multiplying each of the trigger values by a different multiplying factor, wherein the multiplying factor corresponds to the trigger event r, as taught by Kalhan. The capability to request handover could be implemented in mobile device. The suggestion to use this capability in changing environment of different standards, refer to abstract of '977. The motivation for using this capability was to allow the people on the move during changing conditions, refer to fig. 3 of Jeyaseelan..

Response to Arguments

16. Applicant's arguments filed 7/22/2009 have been fully considered but are moot in view of new grounds of rejection.

Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to INDER P. MEHRA whose telephone number is (571)272-3170. The examiner can normally be reached on Monday through Friday from 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost can be reached on 571-272-70237023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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